





Two of the Estlin's Ophthalmic Spectacles - 1842.
with the Estlin's Ophthalmic Spectacles

REPORT
OF THE
RESULT OF THE OPERATION
FOR THE
CURE OF STRABISMUS
IN A
HUNDRED PATIENTS.

READ AT THE ANNUAL MEETING OF THE BATH AND
BRISTOL BRANCH OF THE PROVINCIAL MEDICAL
AND SURGICAL ASSOCIATION, HELD AT BATH,

JUNE 30, 1842.

BY

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Surgeon to the Dispensary for the Cure of Complaints in the
Eyes, Bristol.

[FROM THE PROVINCIAL MEDICAL JOURNAL.]

LONDON.

1842.

R38660

REPORT, &c.

A considerable diversity of opinion appears to exist in various places as to the success of the new operation for the removal of strabismus; and I have heard it to be the opinion of one of the most eminent oculists in London, that the defect will, only for a limited time, be remedied by the division of the muscles moving the eye. I have, therefore, been induced to review a certain number of the cases which have fallen under my notice, for the purpose of determining the amount of success which has been effected, and of forming some judgment as to its permanency, from the time which has already elapsed since the adoption of the method of cure. This I have found no difficulty in doing in a large proportion of persons operated upon, having kept regular notes of their cases, and many of the patients being continually under my observation; and it appeared to me that a condensed report of the result of the operation in a hundred cases might not be an unfit communication for the annual meeting of our district branch of the Provincial Medical and Surgical Association.

It would lead me beyond the limit of the time allowed for reading this memoir to enter upon the various modes of operating in separating the recti muscles of the eye from their insertion into the globe;

it will only be necessary for me to state the operation which, after the trial of others, I have usually practised in the cases that will be referred to. It is essentially that recommended by Mr. P. Bennett Lucas, of London. A perpendicular slit (supposing the patient to be in a sitting position) is made through the conjunctiva, about half an inch distant from the cornea; a small blunt hook is introduced through this conjunctival aperture beneath the muscle, and its union with the globe separated by the same scissors which have been used for cutting the conjunctiva. The only instruments I employ are, a pair of small round-pointed forceps, for taking up the conjunctiva, Lucas's blunt hook, and a strong pair of scissors, either straight or angular, for making the incisions. The hook recommended to be inserted into the sclerotic coat for the purpose of fixing the eye, I have never ventured to use; it appears to me to be a dangerous instrument with an unsteady patient, a coarse and unnecessary one for a firm patient, and one which is discreditable to the surgery of the present day. Excepting in some very unusual circumstances, or by way of experiment, I do not employ specula, or instrumental methods of separating, and holding the lids, trusting them entirely to the fingers of an assistant. An *experienced* assistant is certainly desirable, but I have repeatedly operated with no other aid than that afforded me by a female servant. I cannot believe that surgeons much accustomed to the ordinary operations upon the eyes will, in general, be found to have recourse to instruments for steadying the ball and lids while dividing the muscles for the cure of strabismus; such instruments greatly add to the pain of the patient, and in this way, I think,

often tend to render him irritable and unsteady during the most difficult part of the operation.

The after treatment I have adopted has been, to bind up the eye immediately after the operation, but to remove the bandage in a few hours, without replacing it; to insist upon the patient's going to bed, and remaining there for at least twenty-four hours; the free application of warm water to the eye every six or eight hours; low living for a day or two, and the avoidance of occupation so long as any uneasiness of the organ is occasioned by it. Under this plan I have never seen any unpleasant symptoms follow, and have scarcely ever had occasion to employ any remedies. The patients have usually recovered in about a fortnight; sometimes a small piece of loose fungus has required to be snipped off with scissors, but I have not found this to occur more frequently than once in eight or ten cases.

In reference to the point of operating upon one or both eyes, I would premise that I think a want of clear ideas exists as to squinting with one or with both eyes, or, as it is termed, a person's having a single or double squint. An eye which is turned away from an object upon which the other eye is fixed, is said to squint; but this peculiarity scarcely ever exists in one eye only; the condition of the sight may occasion one eye to be preferred for seeing in general; but when that eye which is alone supposed to squint is fixed upon any object, it is very rarely the case that a similar degree of obliquity is not seen to exist in the one which ordinarily does not squint.

In the majority of cases of strabismus, patients see much better with one eye than with the other, and they consequently use only, or principally, the better

eye. In proportion as the power of seeing with each eye is equal, the eyes are alternately used, and the person is then said to have a double squint. Where each retina is equally healthy, the change of position of the eyes is so frequent, that a decidedly double squint is the consequence. In some people with strabismus, the same peculiarity exists in the optical adjustments of the eyes which is observable in many who do not squint—viz., the focal distance of distinct vision is very different, so that one eye is always used for near objects, and the other for distant ones; where such an inequality exists in a person with strabismus, the perpetual change of the eye that is used occasions also a remarkable example of double squinting. In cases of amaurosis of one eye, or when adhesions limit the movements of an eye, or when it can at no time have its axis properly directed to an object, the healthy eye may never squint; but to such a case, almost exclusively, can the expression, “a single squint,” be correctly limited. If, however, it be understood that by single or double squint, the more rare or more frequent use of both eyes for looking at objects is implied, no confusion of ideas will result; but the attempt to draw a line in every case between squinting with one eye only, or with both, will occasion perplexity in the narration of cases.

The rule I have usually adopted has been, to operate first upon the eye which squinted most, and to be regulated by the progress of the operated eye, and the direction ordinarily assumed by the other, as to an operation upon the second eye. Often an interval of many weeks may pass with advantage before the second eye is operated upon; and if the eventual success of the operation were alone to be consulted, I

should generally pursue this plan of waiting, as I am often able to do in private practice; the necessity, however, of speedily accomplishing the cure, especially among the poorer classes, requires prompter proceeding; and in all patients where I see the operated eye resuming its accustomed mal-position, or the other looking obliquely within a week of the first operation, I never hesitate to recommend the division of the muscle of the eye not yet operated upon.

In a few instances, and usually for the patient's convenience, I have operated upon both eyes at one sitting; as far as the completeness of the cure is concerned, I am not prepared to say that any advantage or disadvantage is the result of this mode of proceeding.

In the removal of a personal deformity, it is far more difficult to agree upon some standard by which the success of the measures employed may be tested, than is the case in the more ordinary achievements of our art. With respect to the latter, if the medical attendant and his patient are perfectly satisfied, no farther proof of success is demanded; but in the other circumstance, the public take upon themselves the right of judging, and the contentment of the patient and his surgeon is admitted as but slight evidence of a successful event. And most unreasonable, as it appears to me, are the criticisms which are continually made upon the results of the operation for the removal of squinting. With some, this valuable improvement in the art of surgery is thought of little moment, if it fails to produce perfect symmetry in an eye which has been distorted for many years, and in which even the figure of the globe and the aperture of the eyelids have become deranged by the morbid direction of the organ. It is of little importance for

the surgeon to witness the beautiful effect of a most scientific application of his art to the removal of a distressing deformity, or for the patient, relieved from a defect which, through life, has been a source of daily annoyance to him, to feel (as pathetically expressed in a letter of thanks to me by an uneducated young woman from Wales, who had been cured by the operation) that he "can now meet the gaze of a stranger without fearing to be an object of pity or of sport:"—a degree of perfection is expected as the result of this operation, which is not looked for in others; and any little irregularity in the movements of the eyes is charged to the amount of a defective operation, with as much justice as the extraction of a cataract would be undervalued because the sight given was of an imperfect description, and the inconvenience of wearing spectacles imposed.

In many of the cases upon which I am reporting, it would require minute investigation to detect the slightest remains of imperfection in the eyes, especially in those patients where both eyes have been operated on. Such results I have, upon the whole, thought it most correct and intelligible to designate by the terms "perfect," or "very satisfactory;" and in those placed under the head of "satisfactory," no deformity remains sufficient to attract the notice of casual observers. Some of these satisfactory cases would be rendered more perfect by the division of the muscle of the other eye; but where the want of parallelism between the two eyes has been so slight as scarcely to be noticeable, I have not advised any farther measures, and sometimes, where I have recommended them, the patient has been so well satisfied with his improvement, both in appearance and

in the power of using his eyes, as not to consent to any more treatment. Cases of this nature are often regarded, by those who do not know all the facts, as evidence of the inefficiency of the operation.

In bringing these results before the society, my object has not been to make a showy statement, selecting good cases, and keeping unfavorable ones out of view. I have thought the most satisfactory mode would be to make no selection at all, but to give a faithful report of the first hundred cases that came under my hands, regardless of the less bright aspect of the report, which want of practice in the operation, and want of discrimination in the cases suitable for it, would naturally produce at the commencement of the new plan of treatment. I shall be quite contented if you think the operation has been not less successful under my hands than in those of my professional brethren.

Of the 100 patients, 39 were males, 61 females; their ages were as follow:—

| | | | | | | |
|---------------------|---|----|---|---|---|-----------|
| From 5½ years to 10 | . | . | . | . | . | 13* |
| „ 10 | „ | 15 | . | . | . | 17 |
| „ 15 | „ | 20 | . | . | . | 23 |
| „ 20 | „ | 30 | . | . | . | 26 |
| „ 30 | „ | 40 | . | . | . | 10 |
| „ 40 | „ | 50 | . | . | . | 5 |
| „ 50 | „ | 60 | . | . | . | 5 |
| „ 62 | „ | — | . | . | . | 1 |
| | | | | | | <hr/> 100 |

Of these, 92 were affected with convergent, or in-

* I have uniformly declined performing the operation upon children so young; as not to be anxiously desirous of submitting to it.

ternal strabismus, and only 8 with divergent, or external squint.

In 39 patients the left eye was the subject of operation; in 32 the right; and in 29 both were operated upon.

In 5 of this number it was necessary to repeat the operation a second time upon the same eye, and one of the patients, a young gentleman of fifteen years of age, required to have both eyes operated upon twice.

The following is a general statement of the results at a period of time varying from 6 to 14 months after the operation:—

Of the patients with internal squint, the recovery was—

| | Cases. |
|---|--------|
| Perfect or very satisfactory in . . . | 44 |
| Satisfactory | 21 |
| Very satisfactory a week or two after, but no later report . . . | 9 |
| Improved, but requiring an operation on the other eye | 7 |
| Squint returned, requiring an operation on the other eye | 4 |
| Improved, but the cases unfavorable | 5 |
| Some degree of external strabismus following the operation for internal | 1 |
| Slightly improved | 1 |

In the 8 cases of external squint, the event was—

| | Cases. |
|-----------------------------|--------|
| Perfect in | 1 |
| Much improved | 3 |
| Slightly improved | 2 |
| Not improved | 2 |

Or, to state the total results more concisely, there were of cases—

| | |
|--|----|
| Perfect or satisfactory | 65 |
| Satisfactory, but no late report . . | 9 |
| Improved, but requiring an operation on the second eye | 7 |
| Not improved, but requiring an operation on the second eye . . | 4 |
| Improved, but unfavorable cases . | 5 |
| Much improved | 5 |
| Slightly improved | 3 |
| No improvement | 2 |

100

As 11 of these cases must be considered unfinished ones (or, supposing the patients were willing to submit to another operation, as “still under treatment”), and as 9 others have not been reported upon beyond a few days after the operation, it is of course impossible to make a complete return in all the hundred cases; of the 9 last mentioned, I am satisfied from the notes that were taken, that at least 7 of them would prove very satisfactory, and I feel warranted in stating that, notwithstanding 5 of the cases were unfavorable ones for the operation, not more than 5 out of the 100 can be considered as failures, and these consist chiefly of patients with external strabismus.*

There are many points of great interest in reference

* Dr. F. A. Ammon, physician to the King of Saxony, in a letter to Dieffenbach, gives the result of 72 operations performed by himself and three other surgeons of Dresden, of which he says 45 had an entirely happy result; 13 only partial success, and 14 have failed. Out of the 72 cases, 9 were cases of divergent strabismus.

to the performance of the operation, and its immediate and remoter results, which I must not venture to enter upon; I may, however, be allowed to say, that I think I have derived advantage in the event of the cases, by making no attempt to *hurry* the operation, which is scarcely avoidable when the patient is kept in a state of suffering by the application of instruments to prevent the movement of the globe and lids. I first separate the muscle from its insertion, and then carefully examine the movements of the eye; if the power of inversion in convergent strabismus be still so great as to allow of the cornea being brought to the inner canthus, I examine with the hook if any muscular fibres remain unseparated, and should none be found, I then divide a little of the fasciæ upwards, and sometimes it is necessary to do this till the section approaches very near to the perpendicular diameter of the eye. I am not satisfied until the eye is so far disabled as to be incapable of turning in sufficiently to conceal the white, and it is remarkable how the abductor muscle acts in a few days (sometimes in a few hours) in bringing to the centre an eye that has been left more inverted than was satisfactory.

A large and prominent eye I usually find to require less division of the tendon than a small and sunken one; and with such I proceed more cautiously in separating parts.

The section of the tendon in some eyes is followed by an immediate increase in the prominence of the globe, the oblique muscles, probably, bringing the ball forward in consequence of the removal of the tension occasioned by the tendinous fasciæ; I am unable to say why this occurs more in some eyes than in others;

it certainly occasions a dissight; but I think the unusual fulness of the globe diminishes in time. It is, however, desirable to examine the general aspect of the eyes before the operation, as some deformity will occasionally be discovered besides the squint, which, when no other defect remains, will be put down to the operation. I have observed an eye much fuller than the other before any operation has been performed.

Whatever may be the opinion of those who have not had the opportunity, or taken the trouble, to watch cases in which the muscle has been divided for the cure of strabismus, as to the liability of the defect to recur, I have only to say that, as far my observation has gone, the tendency is to *improve*. I do not remember a case in which any change for the worse has taken place after a month had elapsed from the operation. In many cases where I have expected it would be necessary to divide the muscle of the second eye, so regular an improvement has gone on during the course of some months as to indispose me to recommend the measure. In two of the preceding cases reported as unfinished, the squint with both eyes was so bad that I attempted to operate on the second eye a week or two after the first had been done; but the patients, little girls, were so unsteady, that I was obliged to desist; and now, after an interval of eight months in one case and of ten in the other, the eyes are so much more parallel that I think it questionable whether the children or their friends will ever desire to have anything more done.

The effect of the division of the muscles upon the visual powers, where they have been previously impaired, has been various; in eyes considerably aman-

rotie no improvement has taken place; in others (in such, probably, where want of use has been the principal cause of the imperfection) much improvement has occurred; some patients have been able to read with the operated eye who could not do so before. Without any especial reference to the comparative powers of the two eyes, the remark of the patients has been very general that they can *use* their eyes afterwards with greater freedom and comfort.

The experience of others, I believe, accords with my own, as to the imperfect adaptation of this operation, as now performed, to the cure of external strabismus; happily, the proportion of these cases to the more curable ones is small. Dieffenbach maintains that paralysis of the rectus internus always attends external strabismus—an assertion I cannot think correct, as I have observed such eyes capable of being turned in by a voluntary effort of the internal rectus. He has occasionally, after separating the rectus externus, passed a small ligature through the conjunctiva, between the cornea and internal canthus of the operated eye, drawn it towards the corner so as to produce an artificial internal squint, and secured the thread on the bridge of the nose by adhesive plaster. I am unable to procure satisfactory information as to his success in cases of external strabismus.

I must not trespass upon the time of the meeting by entering upon the very interesting topic of the *moral* effect of strabismus upon those who have experienced this personal defect. Until its removal by the operation so scientifically devised for the purpose, I had no idea of the extent in which this deformity had exercised a painful influence upon the minds of those who had been the subjects of it. The comfort of numbers,

through a long course of years, has been daily embittered by it, and many a promising character has been permanently stamped with a distressing and morbid sensitiveness, from a dissight which is known to attract notice, but which often subjects the sufferer to much less observation than his exaggerating imagination leads him to suppose. Had the triumph in surgery, which will perpetuate and shed a lustre upon the name of Dieffenbach, been far less perfect in its results than it is at present (or than it will probably become after more experience), it would still have been gratefully hailed as a precious boon by those sufferers who alone can fully appreciate its value.

